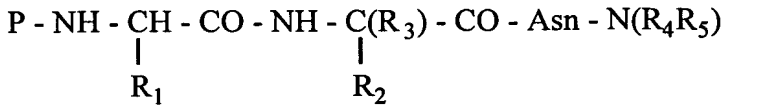
CLAIMS

1. A pseudopeptide corresponding to general formula I



I

wherein:

– P denotes a protecting group or a hydrogen atom,

– R_1 denotes

- a phenylmethyl radical wherein the phenyl nucleus is substituted in the para position by a phosphate, phosphonomethyl, phosphonomonofluoromethyl or phosphonodifluoromethyl radical or

- a naphtylmethyl radical which may be substituted in the 4 position by a phosphate, phosphonomethyl, phosphonomono- or phosphonodifluoromethyl radical,

each of these radicals also being optionally substituted by one or more substituents selected from among the C_1 to C_4 alkyl or C_1 to C_4 alkoxy groups and/or one or more halogen atoms,

– R_2 denotes :

- a phenylmethyl or naphtylmethyl or cyclohexylmethyl radical, 2- or 3-pyridinylmethyl, substituted at the para or meta position of the ring by a phosphate, C_1 to C_2 phosphonoalkyl group, phosphonomonofluoromethyl, phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-(dicarboxy)ethyl, 2-malonyloxy, 5-tetrazolyl or 5-tetrazolylmethyl radical or

- a radical alkyl of the type $(CH_2)_n$ (wherein n = 3 or 4) substituted in end position by a phosphate group, C_1 to C_2 phosphonoalkyl, preferably phosphonomonofluoromethyl and phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-malonyloxy, 2-dicarboxyethyl, 5-tetrazolyl or 5-tetrazolylmethyl radical,

– R_3 denotes a straight chain or branched C_1 to C_4 alkyl group or an alkylcycloalkyl group having a C_3 to C_6 cycloalkyl,

– R_4 and/or R_5 denote

- a hydrogen,
- a straight chain or branched C_1 to C_6 alkyl group
- a C_1 to C_6 arylalkyl group wherein aryl denotes a phenyl or naphtyl nucleus optionally substituted by one or more hydroxyl groups, or
- an aminohexanoic chain followed by the sequences RQIKIWFQNRRMKWKK, IRQPKIWFPNRRKPWKK, Cys-S-S-Cys-RQIKIWFQNRRMKWKK and Cys-S-S-Cys-IRQPKIWFPNRRKPWKK derived from Antennapedia and pharmaceutically acceptable salts thereof.

2. The compound according to claim 1, wherein :

– P denotes an RCO or ROCO group where R denotes a C_{1-4} aminoalkyl or C_{1-4} aminophenylalkyl,

– R_1 denotes a phenylmethyl group substituted in the para position by a substituent selected from among OPO_3H_2, $CH_2PO_3H_2$, $CHFPO_3H_2$ and $CF_2PO_3H_2$,

– R_2 denotes a phenylmethyl group substituted in the meta or para position by a phosphate, C_1 to C_2 phosphonoalkyl group, phosphonomonofluoromethyl, phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-(dicarboxy)ethyl, 2-malonyloxy, 5-tetrazolyl or 5-tetrazolylmethyl radical,

– R_3 denotes a C_1 to C_4 alkyl group,

– R_4 and/or R_5 denote a hydrogen atom, an alkyl $(CH_2)_n$-CH_3 or $(CH_2)_n$-Ar group wherein Ar denotes a phenyl or α,β-naphthyl which may or may not be substituted and n is between 0 and 5 and pharmaceutically acceptable salts thereof.

3. A compound according to claim 1, wherein :

– R_1 denotes a phenylmethyl group having a phosphate group in the para-position,

– R_2 denotes a phenylmethyl group having, in the para- or meta-position, a group selected from the group consisting of a phosphate, phosphonomethyl, 2-malonyloxy or $(CH_2)_nCO_2H$ group wherein n is equal to 0 or 1,

– R_3 denotes a C_1-C_4 alkyl group, and

– R_4 and R_5 both represent a hydrogen atom and the pharmaceutically acceptable salts thereof.

4. The compound according to claim 1 selected from the group consisting of:

– mAZ-pTyr-(αMe)pTyr-Asn-NH_2

– mAZ-pTyr-(αMe)pTyr-Asn-Aha-Antennapedia

– mAZ-Pmp-(αMe)pTyr-Asn-NH_2

– mAZ-pTyr-(αMe)Phe(COOH)-Asn-NH_2

– mAZ-pTyr-(αMe)Phe(CH_2-COOH)-Asn-NH_2.

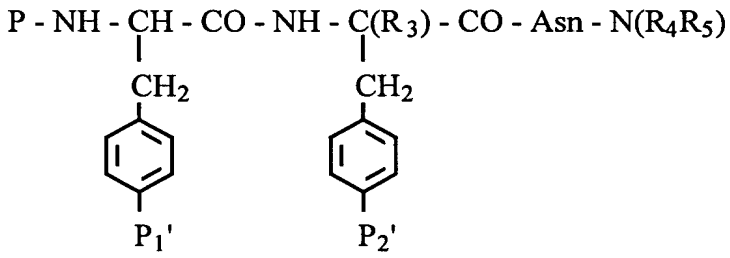
– mAZ-pTyr-(αMe)Pmp-Asn-NH_2

– mAZ-pTyr-(αMe)F_2Pmp-Asn-NH_2

– mAZ-pTyr-(αMe)Phe(PO_3H_2)-Asn-NH_2

– mAZ-pTyr-(αMe)Phe(PO3H2)-Asn-Aha-Antennapedia

5. Pseudopeptide compound corresponding to general formula II :



II

wherein :

- P denotes a protecting group or a hydrogen atom,
- R_3 denotes a straight chain or branched C_1 to C_4 alkyl group or an alkylcycloalkyl group having a C_3 to C_6 cycloalkyl,
- R_4 and/or R_5 denote
  - a hydrogen,
  - a straight chain or branched C_1 to C_6 alkyl group
  - a C_1 to C_6 arylalkyl group wherein aryl denotes a phenyl or naphtyl nucleus optionally substituted by one or more hydroxyl groups, or
- an aminohexanoic chain followed by the sequences RQIKIWFQNRRMKWKK, IRQPKIWFPNRRKPWKK, Cys-S-S-Cys-RQIKIWFQNRRMKWKK and Cys-S-S-Cys-IRQPKIWFPNRRKPWKK, derived from Antennapedia,

and the phenylmethyl group substituted by P_1' is a precursor of a group selected from the group consisting of :

- a phenylmethyl radical wherein the phenyl nucleus is substituted in the para position by a phosphate, phosphonomethyl, phosphonomonofluoromethyl or phosphonodifluoromethyl radical or
- a naphtylmethyl radical which may be substituted in the 4 position by a phosphate, phosphonomethyl, phosphonomono- or phosphonodifluoromethyl radical,

each of these radicals also being optionally substituted by one or more substituents selected from the group consisting of C_1 to C_4 alkyl or C_1 to C_4 alkoxy groups and/or one or more halogen atoms,

and the phenylmethyl group substituted by P_2' is a precursor of a group selected from the group consisting of:

- a phenylmethyl or naphtylmethyl or cyclohexylmethyl radical, 2- or 3-pyridinylmethyl, substituted at the para or meta position of the ring by a phosphate, C_1 to C_2 phosphonoalkyl group, phosphonomonofluoromethyl, phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-(dicarboxy)ethyl, 2-malonyloxy, 5-tetrazolyl or 5-tetrazolylmethyl radical or
- a radical alkyl of the type $(CH_2)_n$ (wherein n = 3 or 4) substituted in end position by a phosphate group, C_1 to C_2 phosphonoalkyl, preferably phosphonomonofluoromethyl and phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-malonyloxy, 2-dicarboxyethyl, 5-tetrazolyl or 5-tetrazolylmethyl radical and the pharmaceutically acceptable salts thereof.

6. The compound according to claim 5, wherein :

– P denotes an RCO or ROCO group where R denotes a C_{1-4} aminoalkyl or C_{1-4} aminophenylalkyl,

– R_3 denotes a C_1 to C_4 alkyl group,

R_4 and/or R_5 denote a hydrogen atom, an alkyl $(CH_2)_n$-CH_3 or $(CH_2)_n$-Ar group wherein Ar denotes a phenyl or α,β-naphthyl which may or may not be substituted and n is between 0 and 5,

– the phenylmethyl group substituted by P_1' is a precursor of a phenylmethyl group substituted in the para position by a substituent selected from the group consisting of OPO_3H_2, $CH_2PO_3H_2$, $CHFPO_3H_2$ and $CF_2PO_3H_2$, and

– the phenylmethyl group substituted by P_2' is a precursor of a phenylmethyl group substituted in the meta or para position by a phosphate, C_1 to C_2 phosphonoalkyl group, phosphonomonofluoromethyl,

phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-(dicarboxy)ethyl, 2-malonyloxy, 5-tetrazolyl or 5-tetrazolylmethyl radical.

7. The compound according to claim 5, wherein :

– R_3 denotes a C_1-C_4 alkyl group ;

– R_4 and R_5 both represent a hydrogen atom ;

– the phenylmethyl group substituted by P_1' is a precursor of a phenylmethyl group having a phosphate group in the para-position,

– the phenylmethyl group substituted by P_2' is a precursor of a phenylmethyl group having, in the para- or meta-position, a group selected from the group consisting of a phosphate, phosphonomethyl-2-malonyloxy or $(CH_2)_nCO_2H$ group wherein n is equal to 0 or 1.

8. The compound according to claim 5, wherein the groups P_1' and/or P_2' are mono or bis-(S-acyl-2-thioethyl)phosphate and/or mono or bis-(acyloxymethyl) phosphate groups wherein the term acyl denotes a tert.butylcarbonyl or isopropylcarbonyl or acetyl group.

9. The compound according to claim 5, wherein the groups P_1' and/or P_2' are mono or bis-(S-acyl-2-thioethyl)phosphonomethyl and/or mono or bis-(acyloxymethyl) phosphonomethyl groups wherein the term acyl denotes a tert.butylcarbonyl or isopropylcarbonyl or acetyl group.

10. Compound according to claim 5, wherein the group P_2' is a mono or bis-(S-acyl-2-thioethyl)phosphonate and/or mono or bis-(acyloxymethyl)phosphonate group wherein the term acyl denotes a tert.butylcarbonyl or isopropylcarbonyl or acetyl group.

11. Compound according to claim 5, wherein the group P_2', is in the form of a carboxylate of :

- arylalkyl where the term aryl denotes a benzene nucleus and the term alkyl denotes a straight or branched carbon chain having 1 to 3 carbon atoms;

- morpholinyl alkyl $-(CH_2)_n (NC_4H_8O)$;

- piperidinyl alkyl $-(CH_2)_n(NC_5H_{10})$ optionally substituted by an OH, CO_2H, CO_2R' where R' is a straight or branched alkyl chain which may or may not contain a benzyl or phenyl group; or

- piperazinylalkyl $-(CH_2)_n(NC_4H_8NH)$ optionally substituted by $(-N-C_4H_8-NR'')$ where R'' denotes an alkyl chain containing 1 to 6 carbon atoms, a benzyl group or a phenyl group, wherein n is between 1 and 3.

12. A pharmaceutical composition containing as active ingredient at least one compound of general formula I according to claim 1.

13. A pharmaceutical composition containing as active ingredient at least one compound selected from the group consisting of:

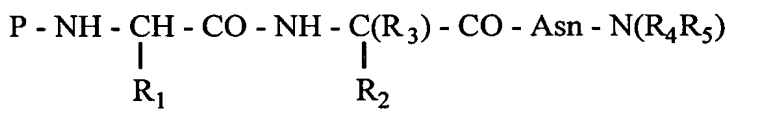
- mAZ-pTyr-(αMe)pTyr-Asn-NH_2
- mAZ-pTyr-(αMe)pTyr-Asn-Aha-Antennapedia
- mAZ-Pmp-(αMe)pTyr-Asn-NH_2
- mAZ-pTyr-(αMe)Phe(COOH)-Asn-NH_2
- mAZ-pTyr-(αMe)Phe(CH_2-COOH)-Asn-NH_2.
- mAZ-pTyr-(αMe)Pmp-Asn-NH_2
- mAZ-pTyr-(αMe)F_2Pmp-Asn-NH_2

– mAZ-pTyr-(αMe)Phe(PO_3H_2)-Asn-NH_2

– mAZ-pTyr-(αMe)Phe(PO3H2)-Asn-Aha-Antennapedia

14. A pharmaceutical composition containing as active ingredient at least one compound of general formula II according to claim 5.

15. A method of preparing a pharmaceutical composition intended for the treatment of diseases connected with proliferative processes, cancers and/or metastases comprising combining excipients with a compound of general formula I



I

wherein:

– P denotes a protecting group or a hydrogen atom,

– R_1 denotes

- a phenylmethyl radical wherein the phenyl nucleus is substituted in the para position by a phosphate, phosphonomethyl, phosphonomonofluoromethyl or phosphonodifluoromethyl radical or

- a naphtylmethyl radical which may be substituted in the 4 position by a phosphate, phosphonomethyl, phosphonomono- or phosphonodifluoromethyl radical,

each of these radicals also being optionally substituted by one or more substituents selected from among the C_1 to C_4 alkyl or C_1 to C_4 alkoxy groups and/or one or more halogen atoms,

– R_2 denotes :

- a phenylmethyl or naphtylmethyl or cyclohexylmethyl radical, 2- or 3-pyridinylmethyl, substituted at the para or meta position of the ring by a phosphate, C_1 to C_2 phosphonoalkyl group, phosphonomonofluoromethyl, phosphonodifluoromethyl, phosphonate,

phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-(dicarboxy)ethyl, 2-malonyloxy, 5-tetrazolyl or 5-tetrazolylmethyl radical or

- a radical alkyl of the type $(CH_2)_n$ (wherein n = 3 or 4) substituted in end position by a phosphate group, C_1 to C_2 phosphonoalkyl, preferably phosphonomonofluoromethyl and phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-malonyloxy, 2-dicarboxyethyl, 5-tetrazolyl or 5-tetrazolylmethyl radical,

– R_3 denotes a straight chain or branched C_1 to C_4 alkyl group or an alkylcycloalkyl group having a C_3 to C_6 cycloalkyl,

– R_4 and/or R_5 denote

- a hydrogen,
- a straight chain or branched C_1 to C_6 alkyl group
- a C_1 to C_6 arylalkyl group wherein aryl denotes a phenyl or naphtyl nucleus optionally substituted by one or more hydroxyl groups, or
- an aminohexanoic chain followed by the sequences RQIKIWFQNRRMKWKK, IRQPKIWFPNRRKPWKK, Cys-S-S-Cys-RQIKIWFQNRRMKWKK and Cys-S-S-Cys-IRQPKIWFPNRRKPWKK derived from Antennapedia and pharmaceutically acceptable salts thereof.

16. A method of preparing a pharmaceutical composition intended for the treatment of diseases connected with proliferative processes, cancers and/or metastases comprising combining excipients with a compound selected from the group consisting of:

– mAZ-pTyr-(αMe)pTyr-Asn-NH_2

– mAZ-pTyr-(αMe)pTyr-Asn-Aha-Antennapedia

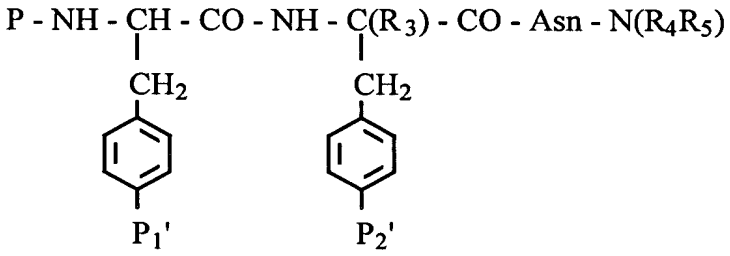
– mAZ-Pmp-(αMe)pTyr-Asn-NH_2

– mAZ-pTyr-(αMe)Phe(COOH)-Asn-NH_2

– mAZ-pTyr-(αMe)Phe(CH_2-COOH)-Asn-NH_2.

- mAZ-pTyr-(αMe)Pmp-Asn-NH_2
- mAZ-pTyr-(αMe)F_2Pmp-Asn-NH_2
- mAZ-pTyr-(αMe)Phe(PO_3H_2)-Asn-NH_2
- mAZ-pTyr-(αMe)Phe(PO3H2)-Asn-Aha-Antennapedia.

17. A method of preparing a pharmaceutical composition intended for the treatment of diseases connected with proliferative processes, cancers and/or metastases comprising combining excipients with a compound of general formula II



II

wherein :

- P denotes a protecting group or a hydrogen atom,
- R_3 denotes a straight chain or branched C_1 to C_4 alkyl group or an alkylcycloalkyl group having a C_3 to C_6 cycloalkyl.
- R_4 and/or R_5 denote
  - a hydrogen,
  - a straight chain or branched C_1 to C_6 alkyl group
  - a C_1 to C_6 arylalkyl group wherein aryl denotes a phenyl or naphtyl nucleus optionally substituted by one or more hydroxyl groups, or
- an aminohexanoic chain followed by the sequences RQIKIWFQNRRMKWKK, IRQPKIWFPNRRKPWKK, Cys-S-S-Cys-RQIKIWFQNRRMKWKK and Cys-S-S-Cys-IRQPKIWFPNRRKPWKK, derived from Antennapedia,

and the phenylmethyl group substituted by P_1' is a precursor of a group selected from the group consisting of :

- a phenylmethyl radical wherein the phenyl nucleus is substituted in the para position by a phosphate, phosphonomethyl, phosphonomonofluoromethyl or phosphonodifluoromethyl radical or
- a naphtylmethyl radical which may be substituted in the 4 position by a phosphate, phosphonomethyl, phosphonomono- or phosphonodifluoromethyl radical,

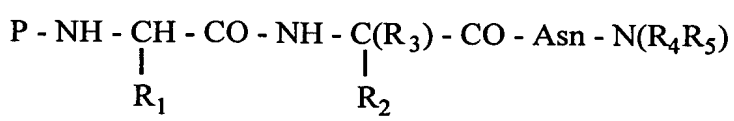
each of these radicals also being optionally substituted by one or more substituents selected from the group consisting of C_1 to C_4 alkyl or C_1 to C_4 alkoxy groups and/or one or more halogen atoms,

and the phenylmethyl group substituted by P_2' is a precursor of a group selected from the group consisting of:

- a phenylmethyl or naphtylmethyl or cyclohexylmethyl radical, 2- or 3-pyridinylmethyl, substituted at the para or meta position of the ring by a phosphate, C_1 to C_2 phosphonoalkyl group, phosphonomonofluoromethyl, phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-(dicarboxy)ethyl, 2-malonyloxy, 5-tetrazolyl or 5-tetrazolylmethyl radical or

a radical alkyl of the type $(CH_2)_n$ (wherein n = 3 or 4) substituted in end position by a phosphate group, C_1 to C_2 phosphonoalkyl, preferably phosphonomonofluoromethyl and phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-malonyloxy, 2-dicarboxyethyl, 5-tetrazolyl or 5-tetrazolylmethyl radical and the pharmaceutically acceptable salts thereof.

18. A method for the treatment of cancers, metastases and/or diseases connected with proliferative processes comprising administering to a patient in need of such treatment a therapeutically efficient amount of a compound comprising a pseudopeptide corresponding to general formula I



I

wherein:

- P denotes a protecting group or a hydrogen atom,
- R_1 denotes
  - a phenylmethyl radical wherein the phenyl nucleus is substituted in the para position by a phosphate, phosphonomethyl, phosphonomonofluoromethyl or phosphonodifluoromethyl radical or
  - a naphtylmethyl radical which may be substituted in the 4 position by a phosphate, phosphonomethyl, phosphonomono- or phosphonodifluoromethyl radical,

each of these radicals also being optionally substituted by one or more substituents selected from among the C_1 to C_4 alkyl or C_1 to C_4 alkoxy groups and/or one or more halogen atoms,

- R_2 denotes :
  - a phenylmethyl or naphtylmethyl or cyclohexylmethyl radical, 2- or 3-pyridinylmethyl, substituted at the para or meta position of the ring by a phosphate, C_1 to C_2 phosphonoalkyl group, phosphonomonofluoromethyl, phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-(dicarboxy)ethyl, 2-malonyloxy, 5-tetrazolyl or 5-tetrazolylmethyl radical or
  - a radical alkyl of the type $(CH_2)_n$ (wherein n = 3 or 4) substituted in end position by a phosphate group, C_1 to C_2 phosphonoalkyl, preferably phosphonomonofluoromethyl and phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-malonyloxy, 2-dicarboxyethyl, 5-tetrazolyl or 5-tetrazolylmethyl radical,
- R_3 denotes a straight chain or branched C_1 to C_4 alkyl group or an alkylcycloalkyl group having a C_3 to C_6 cycloalkyl.
- R_4 and/or R_5 denote

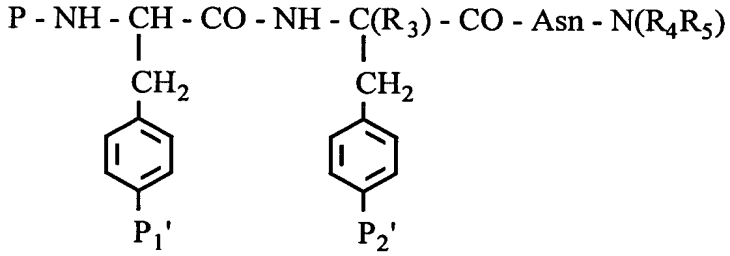
- a hydrogen,
- a straight chain or branched C_1 to C_6 alkyl group
- a C_1 to C_6 arylalkyl group wherein aryl denotes a phenyl or naphtyl nucleus optionally substituted by one or more hydroxyl groups, or

an aminohexanoic chain followed by the sequences RQIKIWFQNRRMKWKK, IRQPKIWFPNRRKPWKK, Cys-S-S-Cys-RQIKIWFQNRRMKWKK and Cys-S-S-Cys-IRQPKIWFPNRRKPWKK derived from Antennapedia and pharmaceutically acceptable salts thereof.

19. A method for the treatment of cancers, metastases and/or diseases connected with proliferative processes comprising administering to a patient in need of such treatment a therapeutically efficient amount of a compound from the group consisting of:

- mAZ-pTyr-(αMe)pTyr-Asn-NH_2
- mAZ-pTyr-(αMe)pTyr-Asn-Aha-Antennapedia
- mAZ-Pmp-(αMe)pTyr-Asn-NH_2
- mAZ-pTyr-(αMe)Phe(COOH)-Asn-NH_2
- mAZ-pTyr-(αMe)Phe(CH_2-COOH)-Asn-NH_2.
- mAZ-pTyr-(αMe)Pmp-Asn-NH_2
- mAZ-pTyr-(αMe)F_2Pmp-Asn-NH_2
- mAZ-pTyr-(αMe)Phe(PO_3H_2)-Asn-NH_2
- mAZ-pTyr-(αMe)Phe(PO3H2)-Asn-Aha-Antennapedia

20. A method for the treatment of cancers, metastases and/or diseases connected with proliferative processes comprising administering to a patient in need of such treatment a therapeutically efficient amount of a compound comprising a pseudopeptide compound corresponding to general formula II :



II

wherein :

- P denotes a protecting group or a hydrogen atom,
- R_3 denotes a straight chain or branched C_1 to C_4 alkyl group or an alkylcycloalkyl group having a C_3 to C_6 cycloalkyl.
- R_4 and/or R_5 denote
  - a hydrogen,
  - a straight chain or branched C_1 to C_6 alkyl group
  - a C_1 to C_6 arylalkyl group wherein aryl denotes a phenyl or naphtyl nucleus optionally substituted by one or more hydroxyl groups, or
- an aminohexanoic chain followed by the sequences RQIKIWFQNRRMKWKK, IRQPKIWFPNRRKPWKK, Cys-S-S-Cys-RQIKIWFQNRRMKWKK and Cys-S-S-Cys-IRQPKIWFPNRRKPWKK, derived from Antennapedia,

and the phenylmethyl group substituted by P_1' is a precursor of a group selected from the group consisting of :

- a phenylmethyl radical wherein the phenyl nucleus is substituted in the para position by a phosphate, phosphonomethyl, phosphonomonofluoromethyl or phosphonodifluoromethyl radical or
- a naphtylmethyl radical which may be substituted in the 4 position by a phosphate, phosphonomethyl, phosphonomono- or phosphonodifluoromethyl radical,

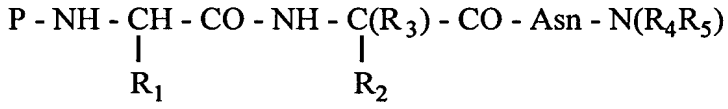
each of these radicals also being optionally substituted by one or more substituents selected from the group consisting of C_1 to C_4 alkyl or C_1 to C_4 alkoxy groups and/or one or more halogen atoms,

and the phenylmethyl group substituted by P_2' is a precursor of a group selected from the group consisting of:

- a phenylmethyl or naphtylmethyl or cyclohexylmethyl radical, 2- or 3-pyridinylmethyl, substituted at the para or meta position of the ring by a phosphate, C_1 to C_2 phosphonoalkyl group, phosphonomonofluoromethyl, phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-(dicarboxy)ethyl, 2-malonyloxy, 5-tetrazolyl or 5-tetrazolylmethyl radical or

a radical alkyl of the type $(CH_2)_n$ (wherein n = 3 or 4) substituted in end position by a phosphate group, C_1 to C_2 phosphonoalkyl, preferably phosphonomonofluoromethyl and phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-malonyloxy, 2-dicarboxyethyl, 5-tetrazolyl or 5-tetrazolylmethyl radical and the pharmaceutically acceptable salts thereof.

21. An automatable process for evaluating, in a high throughput test, the affinity of a compound comprising a pseudopeptide corresponding to general formula I



I

wherein:

– P denotes a protecting group or a hydrogen atom,

– R_1 denotes

- a phenylmethyl radical wherein the phenyl nucleus is substituted in the para position by a phosphate, phosphonomethyl, phosphonomonofluoromethyl or phosphonodifluoromethyl radical or

- a naphtylmethyl radical which may be substituted in the 4 position by a phosphate, phosphonomethyl, phosphonomono- or phosphonodifluoromethyl radical,

each of these radicals also being optionally substituted by one or more substituents selected from among the C_1 to C_4 alkyl or C_1 to C_4 alkoxy groups and/or one or more halogen atoms,

– R_2 denotes :

- a phenylmethyl or naphtylmethyl or cyclohexylmethyl radical, 2- or 3-pyridinylmethyl, substituted at the para or meta position of the ring by a phosphate, C_1 to C_2 phosphonoalkyl group, phosphonomonofluoromethyl, phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-(dicarboxy)ethyl, 2-malonyloxy, 5-tetrazolyl or 5-tetrazolylmethyl radical or

- a radical alkyl of the type $(CH_2)_n$ (wherein n = 3 or 4) substituted in end position by a phosphate group, C_1 to C_2 phosphonoalkyl, preferably phosphonomonofluoromethyl and phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-malonyloxy, 2-dicarboxyethyl, 5-tetrazolyl or 5-tetrazolylmethyl radical,

– R_3 denotes a straight chain or branched C_1 to C_4 alkyl group or an alkylcycloalkyl group having a C_3 to C_6 cycloalkyl,

– R_4 and/or R_5 denote

- a hydrogen,
- a straight chain or branched C_1 to C_6 alkyl group
- a C_1 to C_6 arylalkyl group wherein aryl denotes a phenyl or naphtyl nucleus optionally substituted by one or more hydroxyl groups, or

an aminohexanoic chain followed by the sequences RQIKIWFQNRRMKWKK, IRQPKIWFPNRRKPWKK, Cys-S-S-Cys-RQIKIWFQNRRMKWKK and Cys-S-S-Cys-IRQPKIWFPNRRKPWKK derived from Antennapedia and pharmaceutically acceptable salts thereof for Grb2,

wherein said compound is made to compete with the peptide biotine Aha-PSpYVNVQN for Grb2 in an ELISA test.